

COLORADO DISCHARGE PERMIT SYSTEM (CDPS)
FACT SHEET FOR PERMIT NUMBER CO0041700
ST. VRAIN SANITATION DISTRICT
WELD COUNTY

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I. TYPE OF PERMIT

- A. Permit Type:** Domestic - Major Municipal, Mechanical Plant, Fourth Renewal
- B. Discharge To:** Surface Water

II. FACILITY INFORMATION

- A. SIC Code:** 4952 Sewerage Systems
- B. Facility Classification:** Class A per Section 100.5.2 of the Water and Wastewater Facility Operator Certification Requirements
- C. Facility Location:** 6501 W. County Road 26, Longmont, CO 80504
Latitude: 40° 10' 57.9" N, Longitude: 104° 55' 44.5" W
- D. Permitted Feature:** 001A, following disinfection and prior to mixing with Oxbow Lake,
Latitude: 40° 10' 57.9" N, Longitude: 104° 55' 44.5" W
- 002A, following disinfection and prior to mixing with St. Vrain River.
Latitude: 40° 10' 57.9" N, Longitude: 104° 55' 44.5" W
- The location(s) provided above will serve as the point(s) of compliance for this permit and are appropriate as they are located after all treatment and prior to discharge to the receiving water.
- E. Facility Flows:** 6 MGD

F. Major Changes From Last Renewal:

Regulatory changes have occurred on this segment of St. Vrain River since the last permit renewal and include: antidegradation considerations in the development of this permit owing to a standards change on the segment (from Use Protected to Reviewable), standards for E. coli rather than for fecal coliform, implementation of a temperature monitoring program for development of limits at the next renewal and new ammonia standards requiring use of the AMMTOX model for determining ammonia effluent limits in lieu of the previously used CAM model.

This permit will include limitations for the current outfall 001A, to the Oxbow Lake, as well as for the proposed new outfall 002A to the St Vrain River. The new discharge point and upgraded treatment facility is expected to be online in May 2013. Instead of developing new limitations for the discharge to the Oxbow lake, which would only be used for a few months after this renewal is effective, or to wait for the upgrades to be completed prior to issuing this renewal permit, the Division is renewing the permit to include both the previous limits for Outfall 001A (temporary) and the newly developed limitations for Outfall 002A (permanent).

III. RECEIVING STREAM

A. Waterbody Identification: COSPSV03, St. Vrain Creek and Oxbow Lake

B. Water Quality Assessment:

An assessment of the stream standards, low flow data, and ambient stream data has been performed to determine the assimilative capacities for St. Vrain Creek for potential pollutants of concern. This information, which is contained in the Water Quality Assessment (WQA) for this receiving stream(s), also includes an antidegradation review, where appropriate. The Division's Permits Section has reviewed the assimilative capacities to determine the appropriate water quality-based effluent limitations as well as potential limits based on the antidegradation evaluation, where applicable. The limitations based on the assessment and other evaluations conducted as part of this fact sheet can be found in Part I.A of the permit.

Permitted Feature **001A** will continue to be the authorized discharge point to Oxbow Lake.

Permitted Feature **002A** will be the authorized discharge point to St. Vrain Creek when upgrades to the facility are completed. The location of this outfall is approximately 30 feet east of Outfall 001A.

IV. FACILITY DESCRIPTION

A. Infiltration/Inflow (I/I)

A portion of the sewer system is cleaned and video inspected each year. Depending on the line, the frequency is between 4 and 8 years. In addition, based on field observations, approximately \$450,000 to \$600,000 per year are dedicated to fixing or rehabilitating deficiencies in manholes and sewer pipe. The SVSD had started a monitoring program to understand the flow characteristics of the sewer infrastructure. They are using ISCO equipment. The technique is a metal band and sensor that measures

water height and velocity. Over time, SVSD will be able to determine any capacity concerns and take corrective action.

B. Lift Stations

Table IV-1 summarizes the information provided in the renewal application for the lift stations in the service area.

Table IV-1 – Lift Station Summary

Station Name/#	Firm Pump Capacity (gpm)	Peak Flows (gpd)	% Capacity (based on peak flow)
Hwy 119 Lift Station	2 @ 250 gpm	176,000 gpd	24%

C. Chemical Usage

The permittee did not specify any chemicals for use in waters that may be discharged. On this basis, no chemicals are approved under this permit. Prior to use of any applicable chemical, the permittee must submit a request for approval that includes the most current Material Safety Data Sheet (MSDS) for that chemical. Until approved, use of any chemical in waters that may be discharged could result in a discharge of pollutants not authorized under the permit. Also see Part II.A.1. of the permit.

Chemicals deemed acceptable for use in waters that will or may be discharged to waters of the State are acceptable only when used in accordance with all state and federal regulations, and in strict accordance with the manufacturer's site-specific instructions.

D. Treatment Facility, Facility Modifications and Capacities

The facility is undergoing changes and improvements that have altered the hydraulic and organic capacity. The upgraded facility consists of headworks improvements, two 3-MGD oxidation ditches, secondary clarifiers with associated RAS and WAS pumping systems, expanded UV disinfection, a new outfall pipe and a new biosolids treatment system that includes screw thickeners, autothermal thermophilic aerobic digestion and screw presses. The new hydraulic capacity is 6 MGD and the new organic capacity is 11540 lbs BOD₅/day, which are specified in Site Approval 4469. That document should be referred to for any additional information.

Note that upgrades to this facility are not complete as of August 2012. As a result, the permit document contains the previous effluent limits table, effluent monitoring schedule table and influent monitoring table. These tables are listed under the previous outfall number of 001A. Effluent monitoring schedules and effluent limits relative to the renovated facility are listed under Outfall 002A and will apply upon completion and startup of the renovated facility. At this time, startup is anticipated to occur in May 2013.

Pursuant to Section 100.5.2 of the Water and Wastewater Facility Operator Certification Requirements, this facility will require a Class A certified operator.

E. Biosolids Treatment and Disposal

Biosolids are treated in an aerobic digester. Liquid is removed using presses, then the biosolids are land applied according to all state and federal guidelines.

1. EPA General Permit

EPA Region 8 issued a General Permit (effective October 19, 2007) for Colorado facilities whose operations generate, treat, and/or use/dispose of sewage sludge by means of land application, landfill, and surface disposal under the National Pollutant Discharge Elimination System. All Colorado facilities are required to apply for and to obtain coverage under the EPA General Permit.

2. Biosolids Regulation (Regulation No. 64, Colorado Water Quality Control Commission)

While the EPA is now the issuing agency for biosolids permits, Colorado facilities that land apply biosolids must comply with requirements of Regulation No. 64, such as the submission of annual reports as discussed later in this rationale.

V. PERFORMANCE HISTORY

A. Monitoring Data

1. Discharge Monitoring Reports – The following tables summarize the effluent data reported on the Discharge Monitoring Reports (DMRs) for the previous permit term, from June 2010 through May 2012.

Table V-1 – Summary of DMR Data for Permitted Feature 001A

<i>Parameter</i>	<i># Samples or Reporting Periods</i>	<i>Reported Average Concentrations Avg/Min/Max</i>	<i>Reported Maximum Concentrations Avg/Min/Max</i>	<i>Previous Avg/Max/AD Permit Limit</i>	<i>Number of Limit Excursions</i>
<i>Influent Flow (MGD)</i>	24	2.5/2.2/2.8	2.7/2.4/3.4	<i>Report/Report</i>	
<i>Effluent Flow (MGD)</i>	24	2.5/2.2/2.8	2.7/2.3/3	3/NA	
<i>pH (su)</i>	24	7.3/7.1/7.4	7.5/7.3/7.7	NA - NA	
<i>Fecal Coliform (#/100 ml)</i>	24	3.1/1.4/9.6	5.2/1.6/30	200/400	
<i>TRC (mg/l)</i>	3	0/0/0	0/0/0	0.011/0.019	
<i>NH3, Tot (mg/l) Jan</i>	5	0.87/0.29/1.9	3.7/0.56/12	25/30	
<i>NH3, Tot (mg/l) Feb</i>	5	0.6/0.33/1.1	1.9/0.39/5.3	25/29	
<i>NH3, Tot (mg/l) Mar</i>	5	1.2/0.29/2.4	2.8/0.53/5.9	25/30	
<i>NH3, Tot (mg/l) Apr</i>	5	0.9/0.31/1.9	2.3/0.47/4.7	25/28	
<i>NH3, Tot (mg/l) May</i>	5	0.97/0.41/2.2	2.6/0.89/5.2	21/25	
<i>NH3, Tot (mg/l) Jun</i>	5	0.55/0.38/0.89	1.7/0.6/3.6	21/25	
<i>NH3, Tot (mg/l) Jul</i>	5	0.42/0.23/0.79	1.5/0.33/4.6	23/25	
<i>NH3, Tot (mg/l) Aug</i>	5	0.58/0.21/1.5	2.5/0.34/9.8	19/25	
<i>NH3, Tot (mg/l) Sep</i>	5	0.62/0.32/1.5	1.8/0.83/5.4	24/25	
<i>NH3, Tot (mg/l) Oct</i>	5	0.45/0.22/1	1/0.42/3.1	24/25	
<i>NH3, Tot (mg/l) Nov</i>	5	0.46/0.22/0.99	1.2/0.31/3.4	25/28	
<i>NH3, Tot (mg/l) Dec</i>	5	0.59/0.26/0.93	1.7/0.61/2.7	25/28	
<i>BOD5, influent (mg/l)</i>	24	203/143/292	234/168/356	NA/NA/	

BOD5, influent (lbs/day)	24	4120/3273/5565	4685/3071/7492	NA/NA/	
BOD5, effluent (mg/l)	24	4.2/2/6.8	5.4/3/8.6	30/45/	
BOD5 (% removal)	24	98/96/99	NA/NA/NA	85/NA/	
TSS, influent (mg/l)	24	223/123/340	282/174/552	NA/NA/	
TSS, effluent (mg/l)	24	7.1/4/16	9.9/4.2/43	30/45/	
TSS (% removal)	24	97/94/99	NA/NA/NA	85/NA/	
Oil and Grease (mg/l)	24	NA/NA/NA	0/0/0	NA/NA/	
WET, chronic					
pimephales lethality, Stat Diff	18	//	100/100/100	Stat. Diff. and IC25>IWC	
pimephales lethality, IC25	18	//	100/100/100		
ceriodaphnia lethality, Stat Diff	18	//	100/100/100	Stat. Diff. and IC25>IWC	
ceriodaphnia lethality, IC25	18	//	100/100/100		
pimephales toxicity, Stat Diff	18	//	100/100/100	Report	
pimephales toxicity, IC25	18	//	100/100/100		
ceriodaphnia toxicity, Stat Diff	18	//	100/100/100	Report	
ceriodaphnia toxicity, IC25	18	//	100/100/100		

*The pH data shows the minimum reported values in the "average" column, and the maximum reported values in the "maximum column

** Geometric mean

NA means Not Applicable

B. Compliance With Terms and Conditions of Previous Permit

1. Effluent Limitations – The data shown in the preceding table(s) indicates compliance with the numeric limitations of the previous permit.

In accordance with 40 CFR Part 122.41(a), any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

2. Other Permit Requirements – The permittee has been in compliance with all other aspects of the previous permit.

VI. DISCUSSION OF EFFLUENT LIMITATIONS

A. Regulatory Basis for Limitations

1. Technology Based Limitations
 - a. Federal Effluent Limitation Guidelines – The Federal Effluent Limitation Guidelines for domestic wastewater treatment facilities are the secondary treatment standards. These standards have been adopted into, and are applied out of, Regulation 62, the Regulations for Effluent Limitations.
 - b. Regulation 62: Regulations for Effluent Limitations – These Regulations include effluent limitations that apply to all discharges of wastewater to State waters and are shown in Section VIII of the WQA. These regulations are applicable to the discharge from the St. Vrain Sanitation District WWTF.
2. Numeric Water Quality Standards - The WQA contains the evaluation of pollutants limited by water

quality standards. The mass balance equation shown in Section VI of the WQA was used for most pollutants to calculate the potential water quality based effluent limitations (WQBELs), M_2 , that could be discharged without causing the water quality standard to be violated. For ammonia, the AMMTOX Model was used to determine the maximum assimilative capacity of the receiving stream. A detailed discussion of the calculations for the maximum allowable concentrations for the relevant parameters of concern is provided in Section V of the Water Quality Assessment developed for this permitting action.

The maximum allowable effluent pollutant concentrations determined as part of these calculations represent the calculated effluent limits that would be protective of water quality. These are also known as the water quality-based effluent limits (WQBELs). Both acute and chronic WQBELs may be calculated based on acute and chronic standards, and these may be applied as daily maximum (acute) or 30-day average (chronic) limits.

3. Narrative Water Quality Standards - Section 31.11(1)(a)(iv) of The Basic Standards and Methodologies for Surface Waters (Regulation No. 31) includes the narrative standard that State surface waters shall be free of substances that are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.
 - a. Whole Effluent Toxicity - The Water Quality Control Division has established the use of WET testing as a method for identifying and controlling toxic discharges from wastewater treatment facilities. WET testing is being utilized as a means to ensure that there are no discharges of pollutants "in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life" as required by Section 31.11 (1) of the Basic Standards and Methodologies for Surface Waters. The requirements for WET testing are being implemented in accordance with Division policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010). Note that this policy has recently been updated and the permittee should refer to this document for additional information regarding WET.
4. Water Quality Regulations, Policies, and Guidance Documents
 - a. Antidegradation - Since the receiving water is Undesignated, an antidegradation review is required pursuant to Section 31.8 of The Basic Standards and Methodologies for Surface Water. As set forth in Section VII of the WQA, an antidegradation evaluation was conducted for pollutants when water quality impacts occurred and when the impacts were significant. Based on the antidegradation requirements and the reasonable potential analysis discussed above, antidegradation-based average concentrations (ADBACs) may be applied.

According to Division procedures, the facility has three options related to antidegradation-based effluent limits: (1) the facility may accept ADBACs as permit limits (see Section VII of the WQA); (2) the facility may select permit limits based on their non-impact limit (NIL), which would result in the facility not being subject to an antidegradation review and thus the antidegradation-based average concentrations would not apply (the NILs are also contained in Section VII of the WQA); or (3) the facility may complete an alternatives analysis as set forth in Section 31.8(3)(d) of the regulations which would result in alternative antidegradation-based effluent limitations.

The effluent must not cause or contribute to an exceedance of a water quality standard and therefore the WQBEL must be selected if it is lower than the NIL. Where the WQBEL is not the most restrictive, the discharger may choose between the NIL or the ADBAC: the NIL results in no increased water quality impact; the ADBAC results in an “insignificant” increase in water quality impact. The ADBAC limits are imposed as two-year average limits.

- b. Antibacksliding – As the receiving water is designated Reviewable or Outstanding, and the Division has performed an antidegradation evaluation, in accordance with the Antidegradation Guidance, the antibacksliding requirements in Regulation 61.10 have been met.
- c. Determination of Total Maximum Daily Loads (TMDLs) – This stream segment is not on the State’s 303(d) list, and therefore TMDLs do not apply.
- d. Colorado Mixing Zone Regulations – Pursuant to section 31.10 of The Basic Standards and Methodologies for Surface Water, a mixing zone determination is required for this permitting action. The Colorado Mixing Zone Implementation Guidance, dated April 2002, identifies the process for determining the meaningful limit on the area impacted by a discharge to surface water where standards may be exceeded (i.e., regulatory mixing zone). This guidance document provides for certain exclusions from further analysis under the regulation, based on site-specific conditions.

The guidance document provides a mandatory, stepwise decision-making process for determining if the permit limits will not be affected by this regulation. Exclusion, based on Extreme Mixing Ratios, may be granted if the ratio of the facility design flow to the chronic low flow (30E3) is greater than 2:1. Since the ratio of the design flow to the chronic low flow is 0.72:1, the permittee must perform additional studies to determine if further requirements apply.

The remaining threshold tests require site-specific information that is currently not available and thus a determination cannot be made about how the regulation may affect the setting of effluent limits in this permit. Therefore, a compliance schedule is necessary for acquisition of this information, which will be used to complete the testing of exclusion thresholds before the next permit renewal.

- e. Reasonable Potential Analysis – Using the assimilative capacities contained in the WQA, an analysis must be performed to determine whether to include the calculated assimilative capacities as WQBELs in the permit. This reasonable potential (RP) analysis is based on the Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, dated December, 2002. This guidance document utilizes both quantitative and qualitative approaches to establish RP depending on the amount of available data.

A qualitative determination of RP may be made where ancillary and/or additional treatment technologies are employed to reduce the concentrations of certain pollutants. Because it may be anticipated that the limits for a parameter could not be met without treatment, and the treatment is not coincidental to the movement of water through the facility, limits may be included to assure that treatment is maintained.

A qualitative RP determination may also be made where a federal ELG exists for a parameter, and where the results of a quantitative analysis results in no RP. As the federal ELG is typically

less stringent than a limitation based on the WQBELs, if the discharge was to contain concentrations at the ELG (above the WQBEL), the discharge may cause or contribute to an exceedance of a water quality standard.

To conduct a quantitative RP analysis, a minimum of 10 effluent data points from the previous 5 years, should be used. The equations set out in the guidance for normal and lognormal distribution, where applicable, are used to calculate the maximum estimated pollutant concentration (MEPC). For data sets with non-detect values, and where at least 30% of the data set was greater than the detection level, MDLWIN software is used consistent with Division guidance to generate the mean and standard deviation, which are then used to establish the multipliers used to calculate the MEPC. If the MDLWIN program cannot be used the Division's guidance prescribes the use of best professional judgment.

For some parameters, recent effluent data or an appropriate number of data points may not be available, or collected data may be in the wrong form (dissolved vs total) and therefore may not be available for use in conducting an RP analysis. Thus, consistent with Division procedures, monitoring will be required to collect samples to support a RP analysis and subsequent decisions for a numeric limit. A compliance schedule may be added to the permit to require the request of an RP analysis once the appropriate data have been collected.

For other parameters, effluent data may be available to conduct a quantitative analysis, and therefore an RP analysis will be conducted to determine if there is RP for the effluent discharge to cause or contribute to exceedances of ambient water quality standards. The guidance specifies that if the MEPC exceeds the maximum allowable pollutant concentration (MAPC), limits must be established and where the MEPC is greater than half the MAPC (but less than the MAPC), monitoring must be established. Table VI-1 contains the calculated MEPC compared to the corresponding MAPC, and the results of the reasonable potential evaluation, for those parameters that met the data requirements. The RP determination is discussed for each parameter in the text below.

Table VI-1 – Reasonable Potential Analysis

Parameter	30-Day Average			7-Day Avg or Daily Max			Antideg (2 Year Roll. Avg)		
	MEPC	WQBEL (MAPC)	Reasonable Potential	MEPC	WQBEL (MAPC)	Reasonable Potential	MEPC	ADBAC (MAPC)	Reasonable Potential
Temp (°C)	NA	NA	NA	NA	0	Monitor			
Temp Daily Max (°C)				NA	NA	NA			
Temp MWAT (°C)	NA	30	Monitor						
E. coli (#/100 ml)	NA	242	Yes (Qual)	NA	484	Yes (Qual)	NA	19	Monitor
TRC (mg/l)	0.03	0.026	Yes (Qual)	0.05	0.046	Qualitative	0.034	0.0041	Yes
NH3, Tot (mg/l) Jan	1.9	13	Yes (Qual)	12	14	Yes (Qual)	1.3	5.1	Yes (Qual)
NH3, Tot (mg/l) Feb	1.1	10	Yes (Qual)	5.3	14	Yes (Qual)	0.6	5.2	Yes (Qual)
NH3, Tot (mg/l) Mar	2.4	9.2	Yes (Qual)	5.9	19	Yes (Qual)	1.2	5.4	Yes (Qual)
NH3, Tot (mg/l) Apr	1.9	7.7	Yes (Qual)	4.7	18	Yes (Qual)	0.9	2.7	Yes (Qual)
NH3, Tot (mg/l) May	2.2	8.2	Yes (Qual)	5.2	24	Yes (Qual)	0.97	2.8	Yes (Qual)
NH3, Tot (mg/l) Jun	0.89	7.5	Yes (Qual)	3.6	40	Yes (Qual)	0.89	2.7	Yes (Qual)
NH3, Tot (mg/l) Jul	0.79	4.9	Yes (Qual)	4.6	41	Yes (Qual)	0.42	2.1	Yes (Qual)
NH3, Tot (mg/l) Aug	1.5	4.7	Yes (Qual)	9.8	43	Yes (Qual)	0.58	2.1	Yes (Qual)
NH3, Tot (mg/l) Sep	1.5	6.3	Yes (Qual)	5.4	36	Yes (Qual)	0.62	2.4	Yes (Qual)

NH3, Tot (mg/l) Oct	1	13	Yes (Qual)	3.1	41	Yes (Qual)	0.45	3.7	Yes (Qual)
NH3, Tot (mg/l) Nov	0.99	22	Yes (Qual)	3.4	35	Yes (Qual)	0.46	5.5	Yes (Qual)
NH3, Tot (mg/l) Dec	0.93	21	Yes (Qual)	2.7	25	Yes (Qual)	0.7	6.1	Yes (Qual)
As, TR (µg/l)	5.2	18	No (Qual)	NA	NA	NA	1.2	2.7	No (Qual)
As, Dis (µg/l)*	5.2	815	No(Qual)	NA	815	No (Qual)	NA	NA	NA
Cd, Dis (µg/l)	0.43	2.9	No	0.43	22	No	0.27	0.43	Monitor
Cr+3, Dis (µg/l)	NA	554	No (Qual)	NA	4251	No(Qual)	NA	84	No(Qual)
Cr+6, Dis (µg/l)	NA	26	Monitor	NA	38	Monitor	NA	4	Monitor
Cu, Dis (µg/l)	22	68	No	22	118	No	16	15	Yes
CN, Free (µg/l)				NA	12	Monitor	NA	2	Monitor
Fe, TR (µg/l)	NA	2006	No(Qual)	NA	NA	NA	NA	846	No(Qual)
Pb, Dis (µg/l)	3	26	No	3	674	No	1.2	4.1	No
Mn, Dis (µg/l)	NA	6216	No(Qual)	NA	11300	No(Qual)	NA	5621	No(Qual)
Hg, Tot (µg/l)	0.0068	0.024	No	NA	NA	NA	0.0031	0.004	Monitor
Ni, Dis (µg/l)*	18	403	No (Qual)	18	3628	No (Qual)	6.9	62	No (Qual)
Se, Dis (µg/l)	20	5.2	Yes	20	38	Monitor	5.4	3.2	Yes
Ag, Dis (µg/l)*	2.6	8.4	No (Qual)	2.6	53	No (Qual)	0.4	1.3	No (Qual)
Zn, Dis (µg/l)*	136	940	No(Qual)	136	1089	No (Qual)	129	696	No (Qual)

*For these parameters, total recoverable data was used for comparison against the dissolved standard. This provided a conservative estimate of what would be expected in the dissolved fraction.

B. Parameter Evaluation

BOD₅ - The BOD₅ concentrations in Reg 62 are the most stringent effluent limits and are therefore applied. These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

Total Suspended Solids - The TSS concentrations in Reg 62 are the most stringent effluent limits and are therefore applied. These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

Oil and Grease - The oil and grease limitations from the Regulations for Effluent Limitations are applied as they are the most stringent limitations. This limitation is the same as those contained in the previous permit and is imposed upon the effective date of this permit.

pH - This parameter is limited by the water quality standards of 6.5-9.0 s.u., as this range is more stringent than other applicable standards. This limitation is the same as that contained in the previous permit and is imposed upon the effective date of this permit.

E. Coli - The limitation for E. Coli is based upon the WQBEL as described in the WQA. A qualitative determination of RP has been made as the treatment facility has been designed to treat specifically for this parameter. Previous monitoring as shown in Table V-1 indicates that this limitation can be met and is therefore imposed upon the effective date of the permit.

Total Residual Chlorine (TRC) - The limitation for TRC is based upon the WQBEL as described in the WQA. A qualitative determination of RP has been made as chlorine may be used in the treatment process. Note that monitoring for chlorine is only required when chlorine is being used. Previous monitoring as shown in Table V-1 indicate that this limitation can be met and is therefore imposed upon the effective date of the permit. Note that the limitations for chlorine are only applicable when it is being used.

Ammonia - The limitation for ammonia is based upon the WQBEL and ADBAC as described in the WQA. A qualitative determination of RP has been made as the treatment facility has been designed to treat specifically for this parameter.

The Division assumes that plant renovations will have improved performance for ammonia removal and that plant improvements were designed to meet the limits outlined in the PEL document. Based on previous data it appears that the ADBAC's for ammonia will also be met. Therefore these limitations will be effective immediately.

Total Arsenic – The RP analysis for total arsenic was based upon the WQBEL as calculated in the WQA. With the available data the MDLWIN program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time.

Dissolved Arsenic - The RP analysis for dissolved arsenic was based upon the WQBEL as calculated in the WQA. With the available data the MDLWIN program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time. Note that total arsenic data was used and provides a conservative estimate of dissolved arsenic concentrations.

Potentially Dissolved Cadmium – The RP analysis for potentially dissolved cadmium was based upon the WQBEL and the ADBAC as described in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC (WQBEL) was less than the MAPC (WQBEL) and therefore limitations are not necessary at this time, however the MEPC was greater than 50% of the MAPC (ADBAC) and therefore monitoring is required. A report only requirement has been added to the permit.

Potentially Dissolved Trivalent Chromium – There were not enough data available to perform a quantitative RP analysis for potentially dissolved trivalent chromium. However, based on total chromium data submitted by the permittee, a qualitative determination of no reasonable potential has been made. Therefore, neither limits nor monitoring are being prescribed.

Dissolved Hexavalent Chromium – There were not enough data available to perform a quantitative RP analysis for potentially dissolved hexavalent chromium. Data for total chromium did not exclude this parameter from the need for a limit or monitoring and therefore, this parameter has been added to the permit with a report only condition for the collection of data for a RP analysis.

Potentially Dissolved Copper – The RP analysis for potentially dissolved copper was based upon the ADBAC as described in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was greater than the MAPC and therefore limitations are required. Therefore, a rolling 2-year average requirement has been added to the permit. This is a new limitation and it is unknown if the permittee can meet the limit and therefore a compliance schedule has been added to the permit to give the permittee time to meet this limitation.

Cyanide - There were not enough data available to perform a quantitative RP analysis for cyanide. The data submitted did not exclude this parameter from further review and therefore, this parameter has been added to the permit with a report only condition for the collection of data for a RP analysis.

Total Recoverable Iron - There were not enough data available to perform a quantitative RP analysis for total recoverable iron. However, examination of seven data points submitted by the permittee has resulted in a qualitative finding of no reasonable potential. The maximum effluent concentration of the seven data points was equal to 287 ug/l. This is in contrast to the standards on the stream segment of 2006 ug/l (30-day average) and 846 ug/l (2-yr avg.). As a result, neither monitoring nor limits are required in this permit at this time.

Potentially Dissolved Lead - The RP analysis for potentially dissolved lead was based upon the WQBEL and ADBAC as calculated in the WQA. With the available data the MDLWIN program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time.

Potentially Dissolved Manganese - There were not enough data available to perform a quantitative RP analysis for potentially dissolved manganese. However, examination of the eight data points submitted by the permittee has resulted in a qualitative finding of no reasonable potential using total manganese data (vs. a dissolved standard). The maximum effluent concentration of the eight data points was equal to 21.1 ug/l. This is in contrast to the standards on the stream segment of 6,216 ug/l (30-day average), 11,300 ug/l (Daily Max) and 5,621 ug/l (2-yr avg.). As a result, neither monitoring nor limits are required in this permit at this time.

Total Mercury - The RP analysis for total mercury was based upon the WQBEL and the ADBAC as described in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC (WQBEL) was less than the MAPC (WQBEL) and therefore limitations are not necessary at this time, however the MEPC (ADBAC) was greater than 50% of the MAPC (ADBAC) and therefore monitoring is required. Therefore, a report only requirement has been added to the permit, effective immediately.

Potentially Dissolved Nickel - The RP analysis for potentially dissolved nickel was based upon the WQBEL and ADBAC as calculated in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time. Note that samples collected for nickel were in the total form and the determination of no reasonable potential is based on this, more conservative, form.

Potentially Dissolved Selenium - The RP analysis for potentially dissolved selenium was based upon the WQBEL and ADBAC as described in the WQA. With the available data the MDLWIN program was used to determine the appropriate statistics to determine the MEPC. The MEPC was greater than the MAPC and therefore limitations are required. Therefore a 30-day average, a daily-maximum and a rolling 2-year average requirement have been added to the permit. This is a new limitation and it is unknown if the permittee can meet the limit and therefore a compliance schedule has been added to the permit to give the permittee time to meet this limitation.

Potentially Dissolved Silver - The RP analysis for potentially dissolved silver was based upon the WQBEL and ADBAC as calculated in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time. Note also that samples collected for silver were in the total form and the determination of no reasonable potential is based on this, more

conservative, form.

Potentially Dissolved Zinc - The RP analysis for potentially dissolved zinc was based upon the WQBEL and ADBAC as calculated in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time. Note also that samples collected for zinc were in the total form and the determination of no reasonable potential is based on this, more conservative, form.

Temperature- The MWAT is the maximum weekly average temperature, as determined by a seven day rolling average, using at least 3 equally spaced temperature readings in a 24-hour day (at least every 8 hours for a total of at least 21 data points).

The daily maximum is defined as the maximum 2 hour average, with a minimum of 12 equally spaced measurements throughout the day. As both of these temperature requirements will likely require the use of automated temperature measurements and recordings, the permittee has installed temperature monitoring equipment as part of plant upgrades and will be able to begin monitoring for temperature at start-up of the renovated facility.

As it is unknown whether the facility can meet the new temperature limitation, or whether there is reasonable potential for the facility to cause or contribute to an exceedance of the water quality standard for temperature, report only conditions will be required for the duration of this permit. Upon the next permit renewal, the collected temperature data will be used to determine if there is reasonable potential, and/or if the permittee can meet the limitation.

As continuous ambient water quality data, in accordance with the definition of the standard, is not available, the permittee is encouraged to collect instream data on a continuous basis. This data may be used during the next permit renewal, so that the assimilative capacity of the receiving water (if applicable) can be calculated and used to determine a limitation based on the streams dilution potential. If such data is not available, the Division will likely set the limitation at the water quality standard (i.e. end of pipe limit, no dilution).

Organics – Outside of monitoring for nonylphenol, the effluent is not expected or known to contain organic chemicals, and therefore, limitations or monitoring for organic chemicals other than nonylphenol are not needed in this permit. Note the delayed effective date of the monitoring requirement for nonylphenol. This is incorporated to give the permittee time to develop a site specific PQL for this parameter, otherwise the permittee may use the default PQL as designated in the permit.

Whole Effluent Toxicity (WET) Testing – This facility discharges ammonia, which can cause toxicity at low concentrations, as well as metals which may be discharged at levels that could, either by themselves or based on synergistic effects with other parameters, cause toxicity. On this basis, the Division believes there is reasonable potential for the discharge to interfere with attainment of applicable water quality classifications or standards. Because of this condition, the chronic limit has been incorporated into the permit as a continuation from the previous permit. Note that WET language has been updated in the permit document. Updated language will apply to Outfall 002A upon commencement of discharge from the renovated facility. Previous permit language is also included in the permit document and will apply to discharges from Outfall 001A until that discharge ceases.

1. In-Stream Waste Concentration (IWC) – Where monitoring or limitations for WET are deemed

appropriate by the Division, the chronic in-stream dilution is critical in determining whether acute or chronic conditions shall apply. In accordance with Division policy, for those discharges where the chronic IWC is greater than 9.1% and the receiving stream has a Class 1 Aquatic Life use or Class 2 Aquatic Life use with all of the appropriate aquatic life numeric standards, chronic conditions will normally apply. Where the chronic IWC is less than or equal to 9.1, or the stream is not classified as described above, acute conditions will normally apply. The chronic IWC is determined using the following equation:

$$\text{IWC} = [\text{Facility Flow (FF)} / (\text{Stream Chronic Low Flow (annual)} + \text{FF})] \times 100\%$$

The flows and corresponding IWC for the appropriate discharge point are:

Permitted Feature	Chronic Low Flow, 30E3 (cfs)	Facility Design Flow (cfs)	IWC, (%)
002A St. Vrain Sanitation District	13	9.3	42

The IWC for this permit is 42%, which represents a wastewater concentration of 42% effluent to 58% receiving stream.

2. General Information – The permittee should read the WET testing section of Part I of the permit carefully, as this information has been updated in accordance with the Division’s updated policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010) . The permit outlines the test requirements and the required follow-up actions the permittee must take to resolve a toxicity incident. The permittee should also read the above mentioned policy which is available on the Permit Section website. The permittee should be aware that some of the conditions outlined above may be subject to change if the facility experiences a change in discharge, as outlined in Part II.A.2. of the permit. Such changes shall be reported to the Division immediately.

C. Parameter Speciation

Total / Total Recoverable Metals (EXCEPT Arsenic)

For standards based upon the total and total recoverable methods of analysis, the limitations are based upon the same method as the standard.

Total / Total Recoverable Arsenic

For total recoverable arsenic, the analysis may be performed using a graphite furnace, however, this method may produce erroneous results and may not be available to the permittee. Therefore, the total method of analysis will be specified instead of the total recoverable method.

Total Mercury

Until recently there has not been an effective method for monitoring low-level total mercury concentrations in either the receiving stream or the facility effluent.

To ensure that adequate data are gathered to determine reasonable potential and consistent with Division initiatives for mercury, quarterly effluent monitoring for total mercury at low-level detection methods will be required by the permit.

Dissolved Metals / Potentially Dissolved

For metals with aquatic life-based dissolved standards, effluent limits and monitoring requirements are typically based upon the potentially dissolved method of analysis, as required under Regulation 31, Basic Standards and Methodologies for Surface Water. Thus, effluent limits and/or monitoring requirements for these metals will be prescribed as the “potentially dissolved” form.

Cyanide

For cyanide, the acute standard is in the form of "free" cyanide concentrations. However, there is no analytical procedure for measuring the concentration of free cyanide in a complex effluent. Therefore, ASTM (American Society for Testing and Materials) analytical procedure D2036-81, Method C, will be used to measure weak acid dissociable cyanide in the effluent. This analytical procedure will detect free cyanide plus those forms of complex cyanide that are most readily converted to free cyanide.

TR Trivalent Chromium

For total recoverable trivalent chromium, the regulations indicate that standard applies to the total of both the trivalent and hexavalent forms. Therefore, monitoring for total recoverable chromium will be required.

Hexavalent Chromium

For hexavalent chromium, samples must be unacidified. Accordingly, dissolved concentrations will be measured rather than potentially dissolved concentrations.

VII. ADDITIONAL TERMS AND CONDITIONS

A. Monitoring

Effluent Monitoring – Effluent monitoring will be required as shown in the permit document. Refer to the permit for locations of monitoring points. Monitoring requirements have been established in accordance with the frequencies and sample types set forth in the Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Industrial and Domestic Wastewater Treatment Facilities. This policy includes the methods for reduced monitoring frequencies based upon facility compliance as well as for considerations given in exchange for instream monitoring programs initiated by the permittee. However, due to the fact that the St. Vrain Sanitation District WWTF has undergone such extensive renovation and will be using a majority of new treatment processes, the Division will assign a normal monitoring schedule for a facility of this size in order to collect data that correlates directly to the functioning of the renovated processes.

The quarterly monitoring frequency for mercury is imposed consistent with the Divisions’ recent initiative to include quarterly monitoring for mercury because of the changes in analytical procedure that will allow total mercury to be quantified at much lower concentrations.

B. Reporting

1. Discharge Monitoring Report – The St. Vrain Sanitation District facility must submit Discharge

Monitoring Reports (DMRs) on a monthly basis to the Division. These reports should contain the required summarization of the test results for all parameters and monitoring frequencies shown in Part I.B of the permit. See the permit, Part I.B, C, D and/or E for details on such submission.

2. Special Reports – Special reports are required in the event of an upset, bypass, or other noncompliance. Please refer to Part II.A. of the permit for reporting requirements. As above, submittal of these reports to the US Environmental Protection Agency Region VIII is no longer required.

C. Signatory and Certification Requirements

Signatory and certification requirements for reports and submittals are discussed in Part I.E.6. of the permit.

D. Compliance Schedules

The following compliance schedules are included in the permit. See Part I.B of the permit for more information.

Mixing Zone Analyses – By **October 31, 2014**, the permittee shall conduct remaining threshold tests for exclusion from further analysis under Mixing Zone Regulations.

Activities to Meet Dissolved Copper and Dissolved Selenium: By **November 30, 2015**, the permittee shall submit study results that show compliance has been attained with the final dissolved copper limits in the permit and will have met the interim milestones in the years prior.

Activities to Meet Dissolved Selenium: By **November 30, 2018**, the permittee shall submit study results that show compliance has been attained with the final dissolved selenium limits in the permit and will have met the interim milestones in the years prior.

All information and written reports required by the following compliance schedules should be directed to the Permits Section for final review unless otherwise stated.

E. Stormwater

Stormwater Evaluation: Pursuant to 5 CCR 1002-61.3(2), wastewater treatment facilities with a design flow of 1.0 MGD or more, or that are required to have an approved pretreatment program, are specifically required to obtain stormwater discharge permit coverage, or a Stormwater No Exposure Certification, in order to discharge stormwater from their facilities to state waters. The stormwater discharge permit applicable to wastewater treatment facilities is the CDPS General Permit for Stormwater Discharges Associated with Non-Extractive Industrial Activity (COR900000).

Division records indicate that the St. Vrain Sanitation District applied for and obtained coverage under a Stormwater No Exposure Certification for the St Vrain San Dist WWTF facility. The No Exposure certification number is CONOX0106.

F. Economic Reasonableness Evaluation

Section 25-8-503(8) of the revised (June 1985) Colorado Water Quality Control Act required the Division to "determine whether or not any or all of the water quality standard based effluent limitations are reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons, and are in furtherance of the policies set forth in sections 25-8-192 and 25-8-104."

The Colorado Discharge Permit System Regulations, Regulation No. 61, further define this requirement under 61.11 and state: "Where economic, environmental, public health and energy impacts to the public and affected persons have been considered in the classifications and standards setting process, permits written to meet the standards may be presumed to have taken into consideration economic factors unless:

- a. A new permit is issued where the discharge was not in existence at the time of the classification and standards rulemaking, or
- b. In the case of a continuing discharge, additional information or factors have emerged that were not anticipated or considered at the time of the classification and standards rulemaking."

The evaluation for this permit shows that the Water Quality Control Commission, during their proceedings to adopt the Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin, considered economic reasonableness.

Furthermore, this is not a new discharger and no new information has been presented regarding the classifications and standards. Therefore, the water quality standard-based effluent limitations of this permit are determined to be reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons and are in furtherance of the policies set forth in Sections 25-8-102 and 104. If the permittee disagrees with this finding, pursuant to 61.11(b)(ii) of the Colorado Discharge Permit System Regulations, the permittee should submit all pertinent information to the Division during the public notice period.

John Nieland
8/7/2012

VIII. REFERENCES

- A. Colorado Department of Public Health and Environment, Water Quality Control Division Files, for Permit Number CO0041700.
- B. "Design Criteria Considered in the Review of Wastewater Treatment Facilities", Policy 96-1, Colorado Department of Public Health and Environment, Water Quality Control Commission, April 2007.
- C. Basic Standards and Methodologies for Surface Water, Regulation No. 31, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective January 1, 2011.
- D. Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin, Regulation No. 38, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective November 30, 2010.

- E. Colorado Discharge Permit System Regulations, Regulation No. 61, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective August 30, 2010.
- F. Regulations for Effluent Limitations, Regulation No. 62, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective March 30, 2008.
- G. Section 303(d) List of Water Quality Limited Segments Requiring TMDLs, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 30, 2010.
- H. Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 30, 2010.
- I. Antidegradation Significance Determination for New or Increased Water Quality Impacts, Procedural Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2001.
- J. Memorandum Re: First Update to (Antidegradation) Guidance Version 1.0, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 23, 2002.
- K. Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2002.
- L. The Colorado Mixing Zone Implementation Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 2002.
- M. Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Domestic and Industrial Wastewater Treatment Facilities, Water Quality Control Division Policy WQP-20, May 1, 2007.
- N. Implementing Narrative Standards in Discharge Permits for the Protection of Irrigated Crops, Water Quality Control Division Policy WQP-24, March 10, 2008.
- O. Policy for Conducting Assessments for Implementation of Temperature Standards in Discharge Permits, Colorado Department of Public Health and Environment, Water Quality Control Division, Policy Number WQP-23, effective July 3, 2008.
- P. Procedural Regulations for Site Applications for Domestic Wastewater Treatment Works, Regulation No. 22, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2009.
- Q. Regulation Controlling discharges to Storm Sewers, Regulation No. 65, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective May 30, 2008.

- R. Water and Wastewater Facility Operator Certification Requirements, Regulation No. 100, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2007.

VIII. PUBLIC NOTICE COMMENTS

Two sets of comments were received from the St. Vrain Sanitation District. The first set of comments was provided by the operator of the facility and concerns the treatment plant. The second set of comments was provided by the District's engineering manager and pretreatment coordinator and concerns pretreatment and the collection system. Two of the operator's comments overlap comments made by the engineering manager/pretreatment coordinator and will be addressed first.

Comment 1: Regarding the classification of the new six million gallon facility operator certification requirements: This should change from a Class B existing to a Class A requirement with implementation of the new permit.

Response 1: The change has been made.

Comment 2: The permittee requested that monitoring for metals be changed from weekly to once per month stating that, "SVSD believes a monthly format is more than enough data points to assimilate correctly the impacts of the facility," and citing, "undue hardship on the constituents of the district." Additionally, "SVSD believes any reasonable person with suitable knowledge of water and waters of the US would believe this to be true."

Response 2: Monitoring frequencies are typically determined based on the design flow of any given facility. Monitoring frequencies in this permit were based on a design flow of 6.0 MGD as described in the site application documentation. Further, for "new" facilities, reductions in monitoring frequency are not allowed as the Division feels that closely monitoring new facilities at startup provides a better understanding of how the facility will perform and that such monitoring will help to ensure that unforeseen adverse occurrences in the effluent will not be missed.

However, because the District has provided the Division with multiple years of data showing that the facility's historic average discharge volume (2.1 MGD = 2x/month) is well below the monitoring tier to which they would otherwise be assigned (6.0 MGD = Weekly), the reduced frequency request will be honored and the permit document has been changed to **two days per month** sampling for metals. Note that the facility must request an amendment to the permit should facility flows approach 5.0 MGD in order to align monitoring frequencies with Division policies for facilities in the 5.0 MGD-10 MGD range.

Comment 3 (Operator): The permittee requested that monitoring for *E. coli*, ammonia, BOD5, BOD5 – percent removal, TSS and TSS – percent removal be changed from 5 days/week to 3 days/week via the following comment: *"The rationale behind this request is there will be no noticeable differentiation between when the current permit ends and the new permit starts i.e. flows will remain the 2.5 MGD range. SVSD believes this reasonable alternative should remain in place until the flows reach current permit limitations i.e. 3 MGD monthly average. When the average monthly flow reaches/exceeds this limit the testing will revert to 5 days/week for the testing parameters outlined."*

Response 3: Based on the same rationale as given in Comment 2 above, the facility's historic average discharge volume (2.1 MGD = 3x/week) is well below the monitoring tier to which they would otherwise be assigned (6.0 MGD = 5x/week), the reduced frequency request will be honored and the permit document has been changed to **three days per week** for the above parameters. Note that, in contrast to the comment language, the facility must request an amendment to the permit should facility flows approach 5.0 MGD in order to align monitoring frequencies with Division policies.

Comment 4: (Engineering Manager/Pretreatment Coordinator): The permittee clarified language in the Fact Sheet, stating that, "Verification of the new discharge point 002A is more like 30 feet east of the existing 001A.

Response 4: Wording was changed to incorporate the clarification.

Comment 5: The permittee requested that, "the Selenium limit be suspended past 2015 until more data can be obtained and further rehabilitation efforts can be implemented." The permittee cites ongoing sewer system rehabilitation (in year 4 of a 10 year capital improvement plan) which is being implemented in order to address influent selenium that occurs due to I/I that is high in naturally occurring selenium. I/I has historically had access to the system from sump pumps in residential basements and overall groundwater infiltration. The permittee cites inheritance of infrastructure from the merger of Tri-Area Sanitation and Dacono Sanitations District as contributing to a reduction of selenium in the influent. The permittee believes that completion of the rehabilitation project, in addition to the infrastructure addition, will further reduce selenium in the system and therefore desires a delayed implementation of selenium limits until such a time as data more relevant to the new system has been collected in order to perform a reasonable potential analysis.

Response 5: The proposed final compliance date in the compliance schedule for selenium has been changed. This was done due to the planning and previously approved budgeting to address naturally occurring background selenium in their collection system. The Division agrees that, in lieu of permit limits, and in light of data submitted showing the efficacy thus far of the facility's Capital Improvement project, that there is a reasonable expectation that selenium levels may be reduced to levels below those that would trigger the imposition of limits. The permittee has been given until 2018 to assess the efficacy of the planned rehabilitation project in order to evaluate the presence of Se and begin planning processes in the event limits appear likely.

Comment 6: The following comment was cut and pasted from the original document:

Table VI-I, There may have been a misunderstanding on the metals speciation provided to determine reasonable potentials for metals. All metals data provided by the District's Pretreatment Coordinator, David Cross on 7-31-2012, were in total form, not total recoverable or dissolved. We believe this source was the only data used for the RP evaluation. This seems to contradict the footnote on Table VI-I in the permit fact sheet, which notes some data was in total recoverable form and implies the rest was in dissolved form. The previous page of the fact sheet contains the statement "For some parameters, recent effluent data or an appropriate number of data points may not be available, or collected data may be in the wrong form (dissolved vs total) and therefore may not be available for use in conducting an RP analysis". It appears, from this statement, that use of total metals data is inappropriate for determining RP. If so, is use of such data to set enforceable permit limits appropriate? Please comment on the usability of total metals data to develop RP and permit limits.

Use of total metals data to exempt qualifying metals from further monitoring would be acceptable since it would be more conservative than dissolved or potentially dissolved. This

approach appears to have been used to exempt total arsenic, lead, nickel and silver, from monitoring and would remain valid. It would also appear to be applicable for dissolved arsenic, which would change its status from "monitor" to "monitoring not required". Similar situations appear likely for tri- and hexavalent chromium, iron and manganese, all of which had slightly less than 10 data points available. Please comment on the potential to exempt dissolved arsenic from further monitoring and the ability of the District to collect a few additional data points with the likely expectation of exempting additional metals from further monitoring.

Response 6: The footnote to Table VI-I reads as follows:

“*For these parameters, total recoverable data was used for comparison against the dissolved standard. This provided a conservative estimate of what would be expected in the dissolved fraction.” The Division agrees it was an oversight in the footnote to refer to data in total form versus total recoverable data. However, it is Division policy, as supported by EPA that total and total recoverable forms of metal speciation are, in essence, synonymous and therefore the point becomes moot. It should also be noted that at 31.14(7) the regulation states that, “The determination of metals concentrations in effluents and compliance with NPDES permit limits will be based on the “potentially dissolved” method when based on “dissolved” metals standards and on the “total recoverable” method when based on “total recoverable” metals standards.”

The footnote to Table VI-I is meant to convey the fact that, where appropriate, total metals data can be used to exclude a parameter in a reasonable potential review, because it provides a conservative estimate against metals standards that are set in the dissolved fraction. Using total metals data in finding no reasonable potential precludes the need for the facility to continue monitoring for the duration of a permit cycle. This was done in the cases of total arsenic (against a dissolved arsenic standard), total nickel (against a dissolved nickel standard), total zinc (against a dissolved zinc standard) total chrome (against a dissolved standard for chrome +3) and total silver (against a dissolved silver standard). For each of these metals, the results of the analysis using the total fraction data excluded the permittee from reasonable potential. Corrections have been made to the dissolved arsenic, the chrome +3 and the total and dissolved zinc lines of the permit limit table. Note that for hexavalent chrome, using the total fraction did not exclude them from reasonable potential and therefore monitoring for this metal has been retained.

The permittee indicates that all data submitted to the Division was in the total form. However, data that were received from the operator in the initial phases of permit development included dissolved fraction effluent data. This data was used as it was in the preferred form for RP analysis and was available at the time of that analysis. Metals data in the dissolved form was received for cadmium, chromium, copper, lead and selenium. Data in the total form was received for arsenic, chrome, mercury, nickel, silver and zinc. Analysis of total data for arsenic, chrome, silver, nickel and zinc resulted in a finding of no reasonable potential against the dissolved standard. Total chrome data was used to exempt the trivalent fraction. There was no RP for mercury based on total data against a total standard.

It is Division policy to require a minimum of 10 data points in order to perform a quantitative reasonable potential analysis. The permittee did not provide the requisite number of data points for all parameters. However, for total recoverable iron and manganese, seven and eight data points, respectively, were submitted, and therefore a qualitative RP analysis was conducted. Based upon the very low concentrations of these metals in the effluent against much higher standards (see parameter discussions above), a qualitative finding of no reasonable potential for these metals has been made and neither monitoring nor limits are necessary at this time.

Comment 7: The permittee commented that footnote of Table VI-1 references dissolved standards and asks how the dissolved standards relate to metals standards in the permit, none of which are expressed as dissolved.

Response 7: Regulation 31.14(7) states that, “The determination of metals concentrations in effluents and compliance with NPDES permit limits will be based on the “potentially dissolved” method when based on “dissolved” metals standards and on the “total recoverable” method when based on “total recoverable” metals standards.”

Comment 8: The permittee commented on a disparity between the fact sheet and the permit stating that the report-only requirement for dissolved cadmium is effective immediately but that the report only requirement in the permit says to begin monitoring when Outfall 002A comes online.

Response 8: The words, “effective immediately,” have been removed and monitoring for dissolved cadmium is set to coincide with the startup of the modified facility.

Comment 9: The permittee commented that there should be no limit for zinc since the MEPC is less than half of the MAPC.

Response 9: This has been corrected.

Comment 10: The permittee noted an editorial error where monitoring for mercury in the fact sheet says quarterly and monitoring on the permit table says weekly.

Response 10: The change to quarterly monitoring was made in the limits table.

Comment 11: The permittee commented on the permit requirement that they test for dissolved copper, selenium and zinc and asked for clarification since permit limits are expressed in the potentially dissolved form.

Response 11: Please see response 7.

Comment 12: The permittee would like to know what information would be required to make a claim of economic unreasonableness (Section VII.F of the Fact Sheet) based on previous discussions in this section about selenium. The permittee provided data along with their comments showing that influent selenium from groundwater sources (I/I and basement sumps) is likely the sole contributor of that metal to the facility.

Response 12: The economic reasonableness discussed in Section VII.F pertains to the water quality standards that are established for the segment by the WQCC and are based on a broader interpretation of economic reasonableness (overall public health and the environment), as opposed to the ability of a single discharger to meet site specific effluent limitations. Note that there will be a potential option for a discharger specific variance, come October of 2013. There is an ongoing workgroup that is addressing how this option will be implemented.